**AP Biology Darwin and Evolution (Chapter 15 Outline)**

*Vocabulary*: Define in your own words

Adaptation-

Analogous structures-

Artificial selection-

Biogeography-

Catastrophism-

Evolution-

Fitness-

Homologous structures-

Natural Selection-

Paleontology-

Strata-

Transitional fossil-

Uniformitarianism-

Vestigial structures-

**Respond to the following questions/prompts:**

Evaluate Lamarck's idea of "inheritance of acquired characteristics" as an explanation for biological diversity in organisms. What is wrong or right about this idea? (2 pts)

Summarize the stages of evolution by natural selection. Explain a bit about each stage. (4 pts)

What are the three categories of observations of evolution by natural selection that Darwin gathered while traveling on the HMS Beagle? Explain a bit about each category. (3 pts)

What is the significance of the marine shells that Darwin found high in the Andes Mountains? (2 pts)

Interpret one example from each area of study--fossil, anatomical, biogeographical, and biochemical --that provide evidence for the idea of descent of all life from a common ancestor . (4 pts)

What were a few misconceptions Darwin's critics had about his theory of natural selection. (2 pts)

What are the differences between homologous and analogous vestigial structures and what does each type of structure tell us about common ancestry? (4 pts)

Provide an example of a transitional fossil. Why are transitional fossils key to the theory of evolution by natural selection? (2 pts)

Identify two common misconceptions about the theory of evolution. Explain a bit about each misconception. (4 pts)

***ABOUT THE READING:***

Write three things that you learned about Darwin and Evolution*:*

*Make sure to write a full sentence.*

*Example: I learned that Charles Darwin set sail on the HMS Beagle in 1831 to journey to the Galapagos Islands to study organism diversity; he was only 22 years old.*

*1.*

*2.*

*3.*